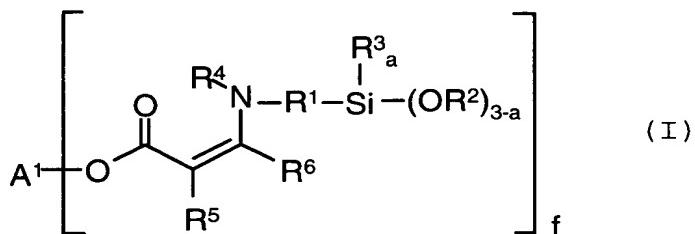


Patent claims

1. A moisture-curing one-component composition comprising at least one polymer of the formula (I)

5



in which A^1 is the radical of an optionally chain-extended, polymeric alcohol after removal of f OH groups;

10

f is the average functionality based on the 3-(N-silylalkyl)aminopropenoate groups and f is in the range between 1 and 3;

15

R^1 is a linear or branched, optionally cyclic, alkylene group having 1 to 20 carbon atoms, optionally having aromatic moieties, and optionally having one or more hetero atoms, in particular nitrogen atoms;

20

R^2 is an alkyl group having 1 to 5 carbon atoms;

R^3 is an alkyl group having 1 to 8 carbon atoms;

25

a is 0, 1 or 2;

R^4 is a hydrogen atom or an optionally substituted alkyl, aryl or arylalkyl group;

30

R^5 and R^6 , independently of one another, are a hydrogen atom or an optionally substituted alkyl, aryl or arylalkyl group, or R^5 and R^6 together are

an optionally substituted alkylene group and thus form a cyclic compound.

2. The moisture-curing one-component composition as
5 claimed in claim 1, characterized in that f is in the range between 1.2 and 2.5.
3. The moisture-curing one-component composition as
10 claimed in claim 1 or claim 2, characterized in that R¹ is a methylene, propylene, methylpropylene, butylene or dimethylbutylene group, in particular a propylene group.
4. The moisture-curing one-component composition as
15 claimed in any of the preceding claims, characterized in that R² is a methyl group or an ethyl group or an isopropyl group, in particular a methyl group or an ethyl group.
- 20 5. The moisture-curing one-component composition as claimed in any of the preceding claims, characterized in that R³ is a methyl or an ethyl group, in particular a methyl group.
- 25 6. The moisture-curing one-component composition as claimed in any of the preceding claims, characterized in that R⁴ is a hydrogen atom.
7. The moisture-curing one-component composition as
30 claimed in any of the preceding claims, characterized in that R⁵ is a hydrogen atom and R⁶ is a methyl group.
8. The moisture-curing one-component composition as
35 claimed in any of the preceding claims, characterized in that the polymeric alcohol is a polyoxyalkylenepolyol, in particular a polyoxyalkylenediol or a polyoxyalkylenetriol, in

particular a polyoxypropylenediol or polyoxypropylenetriol.

9. The moisture-curing one-component composition as claimed in any of the preceding claims, characterized in that the polymeric alcohol is a polyoxyalkylenediol or a polyoxyalkylenetriol having a degree of unsaturation of less than 0.02 meq/g and a molecular weight M_n of from 1000 to 30 000 g/mol.

10

10. The moisture-curing one-component composition as claimed in any of the preceding claims, characterized in that it additionally comprises at least one low molecular weight compound comprising 3-(N-silylalkyl)aminopropenoate groups.

15

11. The moisture-curing one-component composition as claimed in any of the preceding claims, characterized in that it additionally contains at least one polymer containing silane groups.

20

12. The moisture-curing one-component composition as claimed in claim 11, characterized in that the polymer containing silane groups is prepared by a hydrosilylation reaction from a polymer having terminal double bonds, in particular from allyl-terminated polyoxyalkylene polymers, with alkoxysilanes.

25

30

13. The moisture-curing one-component composition as claimed in claim 11, characterized in that the polymer containing silane groups is prepared from a polyurethane polymer containing isocyanate groups and organosilanes reactive toward isocyanates, in particular mercaptoalkylsilanes or aminoalkylsilanes, preferably Michael adducts of aminoalkylsilanes and maleic or fumaric diesters, or

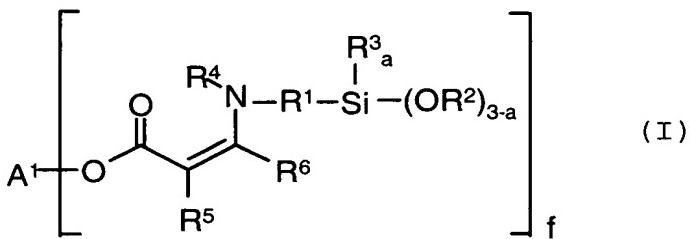
35

from a polymer comprising active hydrogen atoms, for example in the form of hydroxyl or mercapto groups, and isocyanatoalkylsilanes.

14. The moisture-curing one-component composition as
5 claimed in any of claims 1 - 12, characterized in that no isocyanate-containing compounds are used for their preparation.

15. A polymer of the formula (I)

10



in which A^1 is the radical of an optionally chain-extended, polymeric alcohol after removal of f OH groups;

15

f is the average functionality based on the 3-(N-silylalkyl)aminopropenoate groups and f is in the range between 1 and 3, in particular between 1.2 and 2.5;

20

25

R^1 is a linear or branched, optionally cyclic, alkylene group having 1 to 20 carbon atoms, optionally having aromatic moieties, and optionally having one or more hetero atoms, in particular nitrogen atoms;

R^2 is an alkyl group having 1 to 5 carbon atoms;

R^3 is an alkyl group having 1 to 8 carbon atoms;

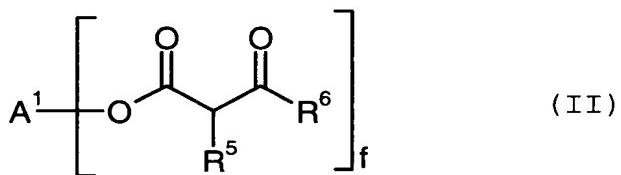
30

a is 0, 1 or 2;

R^4 is a hydrogen atom or an optionally substituted alkyl, aryl or arylalkyl group;

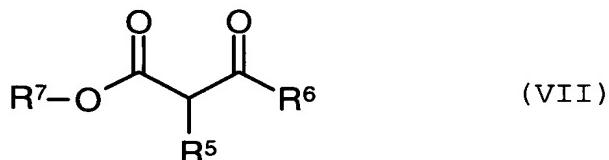
5 R^5 and R^6 , independently of one another, are a hydrogen atom or an optionally substituted alkyl, aryl or arylalkyl group, or R^5 and R^6 together are an optionally substituted alkylene group and thus form a cyclic compound.

- 10 16. A process for the preparation of a polymer as claimed in claim 15 or of the composition as claimed in any of claims 1 to 14, comprising a step of the preparation of the polymer of the formula (I) from a polymer of the formula (II) which comprises 3-oxopropanoate groups and an aminoalkylsilane of the formula (III)
- 15



- 20 17. The process as claimed in claim 16, characterized in that the polymer of the formula (II) which comprises 3-oxopropanoate groups is prepared from a polymeric alcohol of the formula $\text{A}^1(\text{OH})_f$

25 and a compound of the formula (VII)



in which R⁷ is a linear or branched alkyl group having 1 to 6 carbon atoms, in particular a tert-butyl group.

- 5 18. The process as claimed in claim 16 or claim 17, characterized in that it additionally comprises a step of the reaction of the polymer of the formula (II) which comprises 3-oxopropanoate groups with a diamine in less than the stoichiometric amount.
- 10 19. The process as claimed in any of claims 16 to 18, characterized in that no solvents are used in the preparation of the polymer of the formula (I).
- 15 20. A process for the preparation of the composition as claimed in any of claims 1 to 14, characterized in that the polymer of the formula (I) is mixed with additional components in the absence of moisture.
- 20 21. The use of the composition as claimed in any of claims 1 to 14 as an adhesive, sealing compound, coating or lining.
- 25 22. An arrangement, characterized in that it comprises a composition as claimed in any of claims 1 to 14.
- 30 23. A solid or article, characterized in that the surface thereof has been brought at least partly into contact with a composition as claimed in any of claims 1 to 14.
- 35 24. A method of adhesive bonding, characterized in that it comprises a step of bringing a solid or an article into contact with a composition as claimed in any of claims 1 to 14.
25. A method for sealing, characterized in that it

comprises a step of bringing a solid or an article into contact with a composition as claimed in any of claims 1 to 14.

- 5 26. A method of coating, characterized in that it comprises a step of bringing a solid or an article into contact with a composition as claimed in any of claims 1 to 14.
- 10 27. The method as claimed in any of claims 24 to 26, characterized in that it comprises an additional step of curing in the air.
- 15 28. The method as claimed in any of claims 24 to 27, characterized in that it comprises an additional step of bringing into contact with a water-containing component or admixing thereof.